

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
25 March 2004 (25.03.2004)

PCT

(10) International Publication Number
WO 2004/024334 A1

(51) International Patent Classification⁷:

B03D 1/02

(74) Agent: GRIFFITH HACK; 509 St Kilda Road, Melbourne, Victoria 3004 (AU).

(21) International Application Number:

PCT/AU2003/001210

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:

16 September 2003 (16.09.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2002951407 16 September 2002 (16.09.2002) AU

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): WMC RESOURCES LTD [AU/AU]; Level 16, IBM Centre, 60 City Road, Southbank, Victoria 3004 (AU).

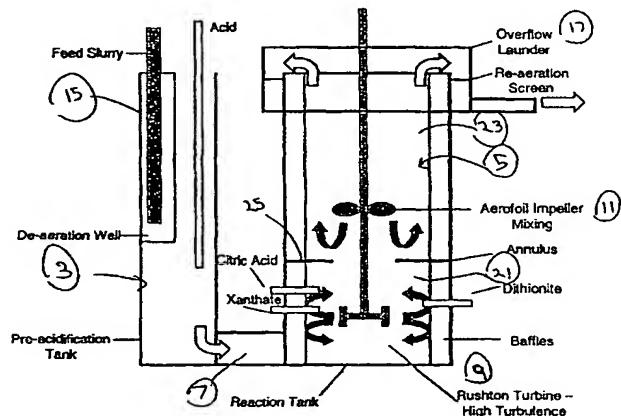
Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPROVED RECOVERY OF VALUABLE METALS

Fine Ni Conditioning Vessel



(57) Abstract: A continuous flotation process and apparatus for iron-containing sulphides in ores and concentrates of ores are disclosed. The process includes adjusting the pH of an aqueous pulp of the ores or concentrates of the ores to be in the range of 6.5-8.5 and thereafter adding a reducing agent to modify an iron hydroxide film on the surface of iron-containing sulphides in the ores or ore concentrates to enable adsorption of a collector onto iron-containing sulphides. The process also includes adding the collector to the pulp prior to, during, or after adding the reducing agent. The process also includes aerating the pulp to increase the pulp potential to a level sufficient to allow collector adsorption onto the iron-containing sulphides and thereafter bubbling gas through the pulp and subjecting the aqueous pulp to froth flotation to produce a froth containing said sulphide containing minerals.

WO 2004/024334 A1